ACME

Equipment Specific Analysis

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Fax: 216-642-1484

CONDITION REPORT

XYZ Manufacturing
Cleveland, Ohio
Example Reports

CRITICAL

ECR	LCR
CRITICAL	MARGINAL

LOCATION ID:	TURB01 RES	SAMPLE DATE:	05/07/07
DESCRIPTION:	Turbine 1 Reservoir	REC'D DATE:	05/10/07
COMPONENT:	Turbine	REPORT DATE:	05/10/07
LUBRICANT:	Exxon Teresstic GTC 32	SPID #:	254858
RESERV. CAP:	4000.0 Gal	CNTL #:	1565593
LUBE TIME:	15000 Hours	ANALYST:	Hierro
TEST SUITE:	R218	BATCH #:	05/10/07-68
MACH HRS:	38000 Hours		

RECOMMENDATIONS:

Color indicates this lubricant has excessive degradation that may be corrected by special filtration. Water content is above Alert and will cause excessive oil degradation and component wear unless removed. Note that TAN is also increasing, indicating the lubricant is becoming degraded. Particle count levels are too high and appear to be dirt and wear. Wear particle analysis indicates large babbitt wear particles from the bearings. Filter oil to remove particles and water, check for varnish, and check bearings with vibration analysis.

CUSTOMER COMMENTS: Customer Comments: This area designated for customer comments. Comments will become part of permanent record. Space is limited to approx. 256 characters.

REPORT RATINGS:

	Sample Date	11/03/2005	02/21/2006	06/20/2006	07/14/2006	10/25/2006	01/09/2007	05/07/2007	01/12/2004	Limits	
	Ratings	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	MARGINAL	CRITICAL	Lubricant Reference	Out of Range Low	Out of Range High
PHYSICAL/CHEMICAL PROPERTIES:											
	Visc 40C, cSt	32.11	32.11	32.61	33.11	34.21	34.71	34.30	32.30	29.70	37.10
	Visc 100C, cSt								5.54	5.23	6.05
										Alert	Alarm
	Viscosity Index										
	Color	2.0	2.0	2.5	2.5	3.0	3.5	4.5		3.50	5.50
	Crackle, Water	NEG	NEG	NEG	NEG	NEG	NEG	POS	NEG		
	Crackle, Refridg.	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG		
	Water (KF), ppm	6	15	6	17	44	71	99	N/A	75	100
	Water (%)	0.001	0.002	0.001	0.002	0.004	0.007	0.010		0.007	0.010
	Water (FTIR), abs								7.5		
	Oxidation (abs)								6.0		
	Nitration (abs)								3.600		
	TAN (mg KOH)	0.060	0.060	0.070	0.080	0.100	0.140	0.230	0.098	0.25	0.40
	TBN (mg KOH)								0.269		
	* RPVOT (Minutes)			975							
PARTICULATES:										Alert	Alarm
	ISO 4406 PC	15/13/9	16/14/12	16/13/10	16/14/11	17/14/11	16/13/9	19/16/14	16/15/14	16/15/13	19/16/14
	DR Trend										
	Soot								0.0		
TRACE ELEMENTS:										Alert	Alarm
Equipment	Iron	0	0	0	2	4	3	12	0	10.00	15.00
Equipment	Chromium	0	0	0	0	0	0	0	0		
Equipment	Aluminum	0	0	0	1	0	2	4	0	3.00	5.00
Equipment	Copper	0	0	0	2	1	5	15	0	5.00	10.00
Equipment	Lead	0	1	0	0	1	0	9	0	3.00	8.00
Equipment	Tin	0	1	0	0	0	1	8	0	3.00	8.00
Equipment	Silver	0	0	0	0	0	0	0	0		
Equipment	Nickel	0	0	0	0	0	0	1	0		
Contaminants	Silicon	0	1	0	1	0	6	19	2	5.00	10.00
Contaminants	Sodium	0	0	0	1	0	0	7	0		
Contaminants	Potassium	0	0	0	0	0	0	0	0		
Contaminants	Boron	0	0	0	0	0	0	0	0		
Additives	Molybdenum	0	0	0	0	0	0	0	0		
Additives	Magnesium	0	0	0	0	0	0	0	0		
Additives	Calcium	0	0	0	0	0	0	0	8		
Additives	Barium	0	0	0	0	0	0	0	0		
Additives	Phosphorus	1	0	2	0	0	0	0	0		
Additives	Zinc	2	3	2	2	1	2	3	0		
Other	Cadmium	1	0	0	0	0	0	2	4		
Other	Vanadium	0	0	0	0	0	0	0	0		
Other	Titanium	0	0	0	0	0	0	0	0		

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(*) - Test performed by a [redacted] contracted ISO 17025 Accredited Laboratory

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CRITICAL	MARGINAL

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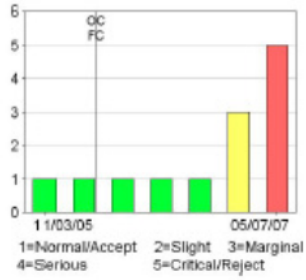
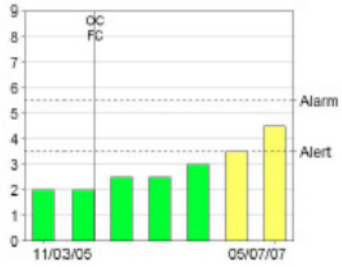
LUBE TIME:	15000 Hours		ANALYST: Hierro
TEST SUITE:	R218	MACH HRS: 38000 Hours	BATCH #: 05/10/07-68

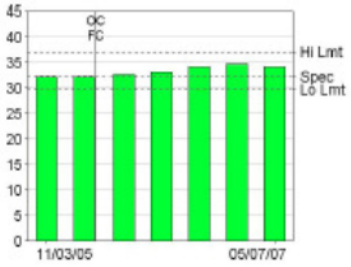
Ratings



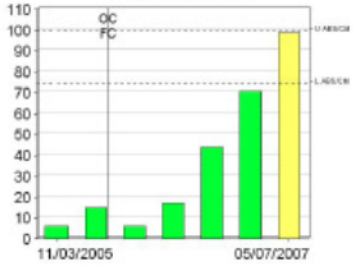
Color



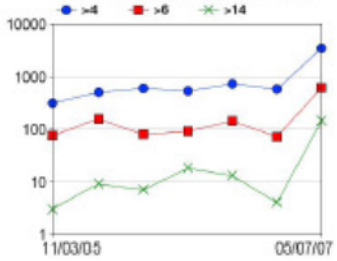
Viscosity (Spec. 32.3cSt@40C)



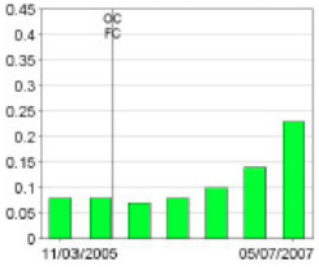
Water KF (ppm)



Particle Count (particles/ml)



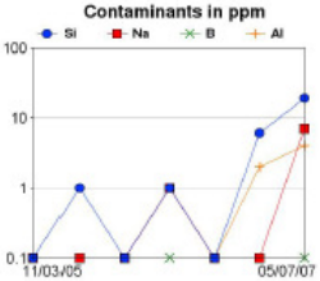
Acid No. (Mg KOH)



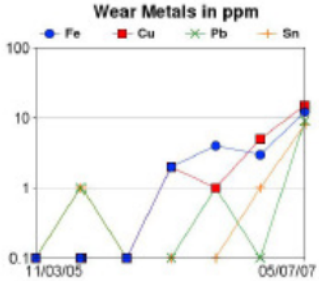
Particle Count (p/ml)

Date	07/14/06	10/25/06	01/08/07	05/07/07
ISO PC	18/14/11	17/14/11	18/13/9	19/16/14
>4um	529	729	575	3469
>6um	92	142	72	607
>14um	18	13	4	143
>21um	76	3	1	69
>38um	16	0	0	12
>70um	3	0	0	4

Contaminants in ppm



Wear Metals in ppm



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MACH HRS:	38000 Hours		

WEAR PARTICLE ANALYSIS:

This sample contains large bearing wear particles. These particles range up to 100 microns in size and are composed of lead/tin babbitt. Bearing wear particles indicate rolling contact failure due to improper load, speed, and/or poor lubrication of equipment's mating surfaces.

ANALYTICAL RESULTS:

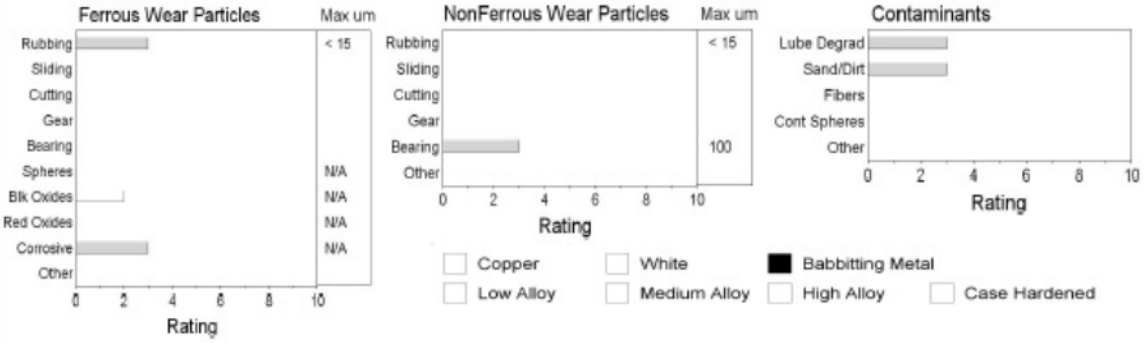
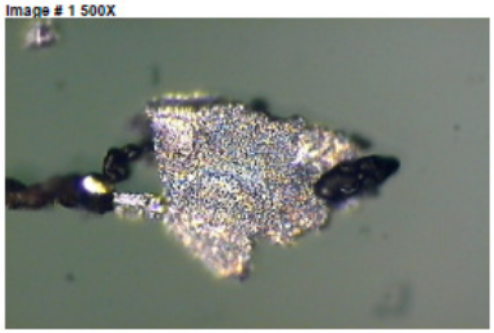
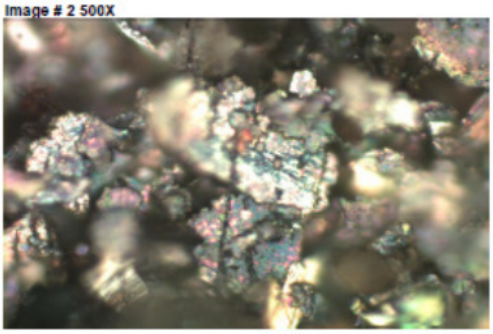


Image # 1 500X



This image depicts a large bearing wear particle composed of lead/tin babbitt.

Image # 2 500X



This image depicts high levels of babbitt bearing wear particles.

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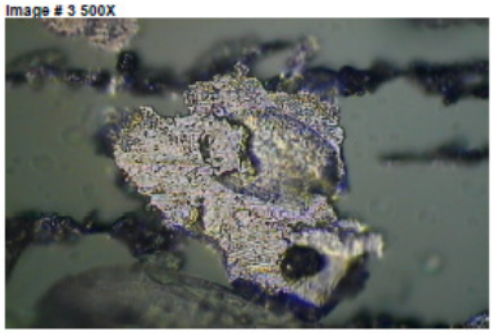
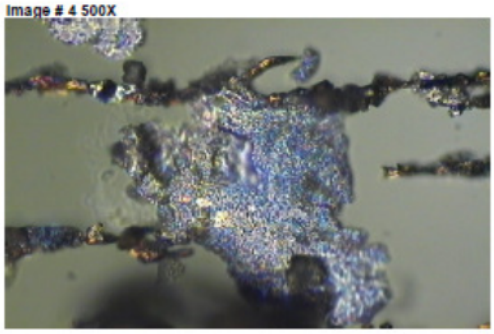
Image # 3 500X



This image depicts babbitt bearing wear particles of up to 100 microns in size. This image is taken prior to heat treatment.

Image # 4 500X



This image depicts the same babbitt bearing wear particles of up to 100 microns in size. This image is taken after heat treatment.

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